

REMARKS

Claims 11-15 are in this application.

Claims 1-10 have been cancelled.

Claim 11 has been amended to define a method of screening using wild type fruit fly *Drosophila melanogaster* adults for detecting long-term brain plasticity inducing activity of a single neuroactive drug comprising the steps of:

- (a) exposing wild type fruit fly *Drosophila melanogaster* adults to the neuroactive drug for about seven days,
- (b) measuring different locomotor activities in flies of step (a),
- (c) identifying a specific alteration in a locomotor activity in the flies of step (b) as characteristic of continuing effect of exposure to the neuroactive drug,
- (d) continuing chronic exposure of the drug to flies of step (a) for 10 days followed by maintaining the flies in a drug free media for 30 days,
- (e) measuring locomotor activities in flies of step (d), and,
- (f) identifying a specific alteration in locomotor activity, in flies of step (e) indicative of long term plasticity alteration, wherein in step (a) and step (d) the wild type fruit fly adults are exposed to only one neuroactive drug.

The Examiner has rejected claims 11-15 under 35 USC 103(a) as being unpatentable over Sharma, et al. (US 6,541,193B2) in view of Wolf et al. (*J. Neuroscience* 2002, 22, 11035-11044) and Faeldt et al. (US 2004/0076583A1).

This is respectfully traversed.

In view of the amendment of claim 11 and the arguments presented below, it is respectfully requested that this rejection be withdrawn.

The rejection based on Sharma is that the instant claims do not exclude the administration of a second chemical agent. In the currently amended claim 11, it is clear that the method of identifying a specific alteration in locomotor activity indicative of long term plasticity alteration is that caused by a particular neuroactive agent.

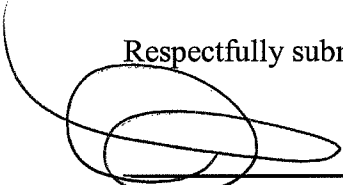
The Office Action's rejection regarding Faeldt et al (US 2004/0076583A1) is that the prior art teaches that a population of flies may be acutely (short course) or chronically contacted with a test agent and that locomotor activity may be examined at plurality of times during the life cycle of the fly (such as one that was acutely administered attest agent) which encompasses measuring the various locomotor activities in flies contacted with a test agent after they have been removed from the drug containing media of the instant claim 11. It is important to note here that different compounds may exert very different effect in living organisms and teaching the effect of a compound does not make obvious the effect of a second compound. Animal models based on different chemical exposures have different screening targets. Also, as per USPTO guidelines a patent disclosure needs to adequately describe the invention and clearly teach others how to make and use the invention. Since Faeldt et al neither describe the locomotor effect of compounds used in the present invention nor teach how to use these compounds; the present invention is not obvious in view of the combination of these references.

The Office Action's objection regarding Wolf et al (J. Neuroscience 2002, 22, 11045-11044) is that the prior art exists about neural plasticity effect of ethanol exposure in Drosophila. The instant claims however do not become unpatentable over this prior art because unlike the latter that teaches a short-term plasticity effect, the former explicitly

identify a novel *Drosophila* model of long-term plasticity. It is important to note here that short-term plasticity and long-term plasticity represent two different biological phenomena. Existence of a short-term plasticity model does not make it obvious that a long-term plasticity model can be derived using the knowledge. In addition, a compound could not have an effect on short or long term plasticity, both or neither. Further, drug screening models based on short-term plasticity will be different from those based on long-term plasticity in terms of usefulness.

Accordingly, as no combination of the references suggest or make the claimed invention obvious, it is respectfully requested that the rejection be withdrawn.

It is submitted that the application is in condition for allowance and favorable consideration is respectfully requested.

Respectfully submitted,


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